

AEROSPACE MATERIAL SPECIFICATION



AMS-S-8503A

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Superseding AMS-S-8503

Steel Bars, Chrome-Vanadium (6150), Aircraft Quality

CANCELLATION NOTICE

This specification has been declared "CANCELLED" by the Aerospace Materials Division, SAE, as of September 2002, and has been superseded by AMS 6448. The requirements of the latest issue of AMS 6448 shall apply when AMS-S-8503 condition (C) is specified.

By this action, this document will remain listed in the numerical section of the Index of Aerospace Materials Specifications. Cancelled specifications are available from SAE.

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1. SCOPE:

1.1 Scope:

This specification covers an aircraft quality, chrome-vanadium (6150) steel bars and forging stock.

1.2 Classification:

Bars shall be furnished in one of the following physical and surface conditions as specified (see 6.2):

1.2.1 Physical conditions:

- (A) As forged
- (B) As rolled
- (C) Annealed
- (D) Normalized
- (E) Normalized and tempered

1.2.2 Surface conditions:

- (1) Black, as forged or rolled
- (2) Pickled in acid
- (3) Rough turned
- (4) Cold finished
- (5) Sand or shot blasted
- (6) Ground, or polished

2. APPLICABLE DOCUMENTS:

The following publications, of the issue in effect on date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein.

2.1 SAE Publications:

Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

AMS 2301	Aircraft Quality Steel Cleanliness, Magnetic Particle Inspection Procedure
AMS 2640	Magnetic Particle Inspection

2.2 ASTM Publications:

Available from ASTM, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.

ASTM A 255	End-Quench for Hardenability of Steel
ASTM A 370	Methods and Definitions for Mechanical Testing of Steel Products
ASTM E 112	Standard Methods for Estimating the Average Grain Size of Metals
ASTM E 350	Standard Methods for Chemical Analysis of Carbon Steel, Low-Alloy Steel, Silicon Electrical Steel, Ingot Iron and Wrought Iron
ASTM E 381	Standard Method for Rating Macroetched Steel

2.3 U.S. Government Publications:

Available from DODSSP, Subscription Services Desk, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.

MIL-I-6868	Inspection Process, Magnetic Particle
FED-STD-48	Tolerances for Steel and Iron Wrought Products
FED-STD-151	Metals; Test Methods
FED-STD-183	Continuous Identification Markings of Iron and Steel Products
MIL-STD-163	Steel Mill Products, Preparation for Shipment and Storage

2.4 Order of precedence:

In the event of a conflict between the text of this specification and the references cited herein, the text of this specification shall take precedence.

3. REQUIREMENTS:

3.1 Material:

The steel shall be of aircraft quality. The material shall comply with cleanliness requirements of magnetic particle inspection in accordance with AMS 2301 for qualification of the heat melt or lot of steel as well as bars, the product of the heat melt or lot of the steel.

3.2 Chemical composition:

The chemical composition shall be as specified in Table I.

3.3 Hardenability:

The end-quench hardenability values shall be J53 = 6 min and J45 = 8 min for the steel in all specified conditions using specimens in accordance with ASTM A 255.